GEOGRAPHIC SCHOOL BULLETINS

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NOTE TO TEACHERS: Because of Easter recess, there will be no GEOGRAPHIC SCHOOL BULLETINS on April 22. The BULLETINS will be resumed on Monday, April 29.

R. Raffius

GIVING TEACHER RAPT ATTENTION, LITTLE INDIANS LEARN THE "THREE R'S"

In the open air, their only equipment slates and a small blackboard, Hindus and Moslems study together in Lahore. In India, only about one child in every four gets an elementary education. Schooling, except in a few areas, is not compulsory (Bulletin No. 1).

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HOW TEACHERS MAY OBTAIN THE BULLETINS

The Geographic School Bulletins are published weekly throughout the school year (thirty issues) and will be mailed to teachers in the United States and its possessions for one year upon receipt of 25 cents (stamps or money order); in Canada, 50 cents. Originally entered as second-class matter January 27, 1922; re-entered as of April 27, 1943, Post Office, Washington, D. C., under Act of March 3, 1879. Copyright, 1946, by National Geographic Society, Washington 6, D. C. International copyright secured. All rights reserved. Quedan reservados todos los derechos.

British Independence Offer Airs India's Complex Problems

GREAT BRITAIN has proposed full independence for India, either within or without the Commonwealth. The action again turns world attention to that vast land of such extraordinary variety in geographic, racial, religious, economic, cultural, and political conditions.

India's present government, loosely held together under the mantle of the British Empire, is one of the most complex organizations on record. Authority stems from various sources. It may be based on British parliamentary law, carried out by representatives of the Crown; or it may rest in the inherited sovereignty of princes of the individual Indian States. It may even be dependent on tribal rifles and ritual, as in the hills of northwest India adjoining the Afghanistan border, where British power is enforced only along the "King's Road."

Maharaja, Nizam, and Nawab Reign in Hundreds of Native States

The Indian peninsula, a sub-continent appended to Asia, is divided into two major political parts—British India and the Indian States. British India covers about 55 per cent of the more than a million and a half square miles of territory. It holds a little more than three-fourths of India's roughly 400 million people. Scattered over the V-shaped country, its subdivisions include 11 provinces administered by governors and six by chief commissioners.

There are 562 Indian (or native) states, ruled with Oriental pomp and widely different degrees of power by men bearing such titles as Maharaja, Nizam, and Nawab. In size, these states range from large areas to units so small that map makers sometimes use numbers rather than space-taking names to designate them. Hyderabad, with a population of more than 16 million, is twice as big as Ohio.

Chief representative of British authority is the Viceroy and Governor General, appointed by the Crown. Responsible to him are the governors and chief commissioners of the 17 main administrations of British India. In addition, the Governor General also holds the office of "Crown Representative" in charge of relations with the separate Indian States.

Native states are nominally independent, under individual treaties with Britain. Within their domains, British control extends to foreign relations and postal, telegraph, customs, and, usually, currency affairs. Military forces of the Indian princes are limited; they may not make war or conclude peace.

Veto Power of British Governors Seldom Used

Recent decades have seen a gradual extension of Indian self-rule in British India. Britain's Governor General is assisted by an Executive Council of 14 members, mostly Indians. There is a central Indian legislature of two houses, largely elective, and provincial legislatures which are elective and autonomous, although at present six of them are not in operation. The governing bodies are made up almost wholly of Indian members. While the British Governor General and the provincial governors have veto power over legislation, it is seldom exercised in the central government, and has not been used provincially since 1937.

In 1935, a British Parliamentary Act provided for a considerable degree of autonomy for the provinces of British India. The war, and party opposition to various phases of the act, resulted in its postponement. In 1942, the unsuccessful mission of Sir Stafford Cripps offered India a further degree of independence, with the promise of full self-rule after the war's end. The current British Cabinet

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Archbold Expedition

A "BUCKET BRIGADE" OF DYAKS UNLOADS CARGO AT LAKE HABBEMA, IN NETHERLANDS NEW GUINEA 13,342 FEET ABOVE SEA LEVEL

The Dyaks came from Borneo to be porters for the 1938-39 Archbold Expedition to an unknown inland portion of the world's second-largest island. The 60,000 natives of Grand Valley, near the lake, had never before seen white men. They were to see white men again, and a white woman, during the war when WAC Corporal Margaret Hastings and two male companions survived an Army transport crash and lived in the valley until rescued. This Consolidated PBY-2, forerunner of types used by the Navy, transported personnel, equipment, and supplies for the prewar scientific expedition which discovered Grand Valley. It was the party's only means of contact with Hollandia (175 miles northeast) and the outside world (Bulletin No. 4).

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Roosevelt Home, Given to Public, Overlooks Historic Hudson

THE Hyde Park, New York, area, which recently missed a chance of being "given to the world" as the UNO capital, has now had its famous estate and home of the late Franklin D. Roosevelt presented as a gift to the people of the United States. On April 12, anniversary of the former president's death, the Roosevelt ancestral home (illustration, next page) was dedicated as a national historic site under jurisdiction of the Department of the Interior.

The house and over 33 acres of grounds are now open to the public. Adjoining the L-shaped site is the Franklin D. Roosevelt Memorial Library, with grounds of 16 acres, which has been public property for some time. The rambling fieldstone library, administered by the Archivist of the United States, houses papers, mementoes, and many personal possessions of the wartime leader.

"As Beautiful a Land as One Could Tread Upon"

Though best known in recent years as the home of a president, Hyde Park belongs to a region famed in history and literature ever since Henry Hudson sailed his tossing, high-prowed *Half Moon* up the "Great River of the Mountains" in 1609.

"It is as beautiful a land as one could tread upon," the English sea captain, then exploring under the Dutch flag, wrote after viewing the bluffs and tree-covered hills which hold the broad stream in its channel. And the Dutch and English settlers who followed in Hudson's wake echoed his words.

Even the Indians who lived in the valley were described as fond of peace; Hudson called them "a loving people." They had their own name for the majestic river: "The stream that flows both ways." It was an apt description, for the tide moves north as far as Troy.

Approximately midway between Troy and New York City the village of Hyde Park stands slightly inland on a bluff 150 feet above the river's eastern bank, amid the fields and apple orchards of Dutchess County. Founded in 1741, the village was attacked by the British during the Revolutionary War and several buildings were burned. In recent years its population has been close to 1,000.

Not so rugged as the Palisades, or the Hudson Highlands to the south, the gently rising hills, the trim homes, and the wood lots of the Hyde Park neighborhood have often been compared with the English countryside. The rural atmosphere makes the noise and hubbub of New York City seem much farther than 80 miles away. But that distance has been minimized by the excellent highways and the fast mainline trains that parallel the river.

Estate's Historic Name Is Springwood, Not Hyde Park

Well-kept estates border Hyde Park on three sides, and among these, a mile south of the village, is the Roosevelt home. Before he died, the late president provided for the government's taking over his home by deeding it to the United States on December 31, 1943. His heirs speeded the transaction by waiving their right to occupy the dwelling during their lifetimes. Franklin D. Roosevelt is buried in a rose garden on the grounds.

The entire estate, consisting of nearly 1,000 acres, was given the name Springwood because of the springs whose waters rushed down the hills to the Hudson. The names Crum Elbow and Hyde Park have often been popularly applied to the estate.

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mission to India is reported to be seeking unity among differing Indian factions and the adoption of a generally acceptable constitution.

India's racial and social structure is even more complex than its governmental patchwork. The many races speak more than 20 different languages and at least 250 dialects. Numerous and often bitterly opposed religious sects follow diverse rituals and practices creating daily problems (illustration, below) almost incredible to Western minds.

For example, because of food taboos and caste distinctions, separate cooking arrangements and eating and drinking places must be provided for Moslems, Caste Hindus, and Untouchables. These latter "depressed classes" occupy a position so low in the Hindu hierarchy that contact with them is avoided by many.

Political parties often count strength in terms of religious affiliation. The All-India Moslem League, whose leader favors "Pakistan," a separate Moslem state, claims 94 million adherents. There are roughly 200 million Caste Hindus, and some 50 or 60 million Untouchables. Smaller parties include Radical Democrats, Communists, and Scheduled Castes Federation (other Untouchables).

Indian problems are further complicated by the country's size and geographic variety; land features include mountains and plains, tropics and freezing plateaus, and deserts and fertile river valleys. The huge population, crowded in the more fertile areas, suffers from poverty and knows famine when crops fail. A population nearly three times that of the United States subsists in a land about one-half as large. The largely illiterate masses (illustration, cover) contrast with the fabulously rich princes.

Note: India is shown on the National Geographic Society's Map of India and Burma, which was issued as a supplement to the April, 1946, issue of the *National Geographic Magazine*.

See also, "India Mosaic," "India's Treasures Helped the Allies," and "South of Khyber Pass" in the Magazine for April, 1946; "India—Yesterday, Today, and Tomorrow," October, 1943; and "New Delhi Goes Full Time," October, 1942.

Bulletin No. 1, April 15, 1946

Maynard Owen Williams

HELD SACRED BY HINDU, NOT MOLESTED BY MOSLEM, A DELHI BULL SPRAWLS

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Far Island Colonies of France Given Equivalent of Statehood

FRANCE will convert three of its island colonies into three new French "states" early in 1947, according to a law recently enacted by the French National Assembly. They are Martinique (illustration, next page) and Guadeloupe in the West Indies, and Réunion in the Indian Ocean east of Madagascar. All have been French possessions for more than three centuries.

The Assembly's move to cement the legal bonds of these remote islands to France might be compared to a United States Congressional decision to extend statehood to Guam and American Samoa. Martinique and Guadeloupe lie 4,200 miles southwest of Paris; Réunion is 5,800 miles southeast of the French capital.

Representation in Paris Not New to the Islands

The 89 departments of France proper, averaging slightly larger than Delaware in area, are the French equivalent of states. A 90th, Corsica, is treated as an integral part of the homeland, although it is an island in the Mediterranean 102 miles from the nearest French mainland. Since 1881, the districts of Algiers, Oran, and Constantine, constituting Northern Algeria, south across the Mediterranean from France, have held department status overseas. Thus the three island additions will bring the total of French departments to 96, just double the number of American states.

Back in 1848, during the short sway of the Second French Republic, these three islands were linked together in the decree which abolished slavery and gave the right of citizenship and universal suffrage to their natives. They were virtual departments under the Third Republic, sending their elected representatives to the House of Deputies and Senate in Paris.

All three islands have a sugar economy, exporting sugar and rum grown and processed by large French-speaking native populations of Negro and mixed blood. All three have suffered major catastrophes of nature in modern times—Réunion, a severe wind in 1879; Martinique, a violent eruption of 4,400-foot Mont Pelée in 1902 that destroyed its largest city and killed 40,000 people; Guadeloupe, a devastating hurricane in 1928.

Réunion, the largest, is a mountainous oval almost matching Rhode Island's land area. Central peaks tower to 10,000 feet. Half the 210,000 people live in five coast towns—St. Denis (capital, with 31,000 residents), St. Paul, St. Louis, St. Pierre, and St. Philippe. Abd-el Krim, Moroccan insurgent, has languished on Réunion since his capture in 1926; he is the most recent of the island's distinguished exiles.

Martinique Was Cache for Tons of French Gold

Martinique, southernmost of the French islands in the West Indies, supports 260,000 people and spreads its rocky, volcanic mass over an area two-fifths Réunion's size. Fort de France, trade center and capital, on the west coast, has 43,000 inhabitants. The island's big French naval base was a threat to Allied security in 1942-43 while it was under Vichy control. Some 250 tons of French gold, worth $286,000,000, brought to Martinique from Paris in 1940, completed the return trip in March, 1946.

Guadeloupe, lying 80 miles northward from Martinique beyond Great Britain's island of Dominica, is the largest of the Lesser Antilles. Half again as large as

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The central part of the 40-room family home is nearly 200 years old, but its outward appearance has been disguised with stucco and the addition of two projecting stone wings. Through the years the walls have become heavy with ivy. A semicircular portico with Doric columns forms the main entrance, and atop the roof is a "captain's walk."

Beyond the lawns, dotted with shrubs and trees, is visible the southward sweep of the Hudson's "Long Reach," an 11-mile straight sailing course mentioned in the journal of one of Henry Hudson's crew. It is over a portion of this course that the intercollegiate Poughkeepsie regatta has been held nearly every June for the last half-century.

Poughkeepsie, nearly six miles south of Hyde Park, is the largest city on the Hudson between New York City and Albany; its 1940 population was more than 40,000. Two bridges, one for trains and one for automobile traffic, span the river there. Industrial plants cluster along the bank, but the principal business and residential districts are high above the water.

At Poughkeepsie's eastern edge is Vassar College for girls, founded during the Civil War. Its spreading campus, entered through a triple-arched gateway in Taylor Hall, contains not only classroom buildings and dormitories but a farm, a nine-hole golf course, two small lakes, and an outdoor theater. No longer do the students tend the gardens—once the only exercise they were permitted.

Note: Hyde Park is shown on the Society's map, The Reaches of New York City.

See also, "Henry Hudson, Magnificent Failure," in the April, 1939, issue of the *National Geographic Magazine*.

Fairchild Aerial Surveys

THE HUDSON FLOWS QUIETLY PAST WOODED ACRES OF THE ROOSEVELT ESTATE

In the hedge-enclosed garden lie the mortal remains of Franklin D. Roosevelt—between the stately house where he was born and and the library (just off the lower right-hand corner of the picture) which preserves his official papers. Last week the house and some of the grounds were opened to the public as a national historic site.

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War-Spurred Cargo Airlines Pioneered in the '20's and '30's

MEN who "learned the trade" while in the Air Transport Command during the war are now helping to expand air freight in the postwar period. Both established lines and newly formed air-freight companies are sending "flying boxcars" into every quarter of the globe. The necessities of war made men realize the full value of sky hauling in areas where surface travel was impossible.

One broad activity of the peacetime cargo flyer is bringing mineral and plant wealth from the earth's least accessible regions—the tropical wildernesses and bleak, sub-arctic expanses which always have greatly hindered travel at surface level. Such untamed areas are found in the vast mountain forests of New Guinea (illustration, inside cover), in Canada's wilds, in the Amazon basin, in Siberia, and in many part of Africa and southeastern Asia.

Gold Flies from New Guinea Wilds

Before World War II, the challenge of these areas was being met to a small degree by air transport. Gold was most often the cargo that made air pioneering of these forbidding lands worth while. Explorers, too, often used airplanes to haul expedition supplies (illustration, next page).

An enormously rich gold deposit, discovered on Edie Creek in the thickly forested Morobe Mountains of New Guinea in 1926, started a gold rush that only the airplane could handle. From airfields at the north-coast ports of Salamaua and Lae, Guinea Airways, Ltd., flew big dredges and other heavy machinery, piece by piece, inland 40 miles over the matted mountain jungle. By air also went building materials, workers and their families, livestock, and everything else needed to set up a gold-mining community.

Because of this traffic, Guinea Airways was for many months the largest air-freight service in the world. The resulting town of Wau, far above the malarial swamps of the coast, became a healthful center for thousands of employees of the various mining companies, although ground travel from the coast was next to impossible.

Thus, 400 years after Spanish explorers named it "Isla de Oro (Isle of Gold), New Guinea began to yield the yellow metal in commercial volume. For postwar air-freight contractors in New Guinea, there may be pipes and oil-well machinery to be transported inland. Australian prospectors look to these same wild mountains for the petroleum that will make their country independent of oil from distant countries.

Planes Seek Canadian Gold, Radium, Uranium

While cargo planes were building Wau in New Guinea, Canadian engineers were putting aircraft to work increasingly in pushing their country's frontiers northward into mineral-rich lands. Planes on sleds or pontoons carried prospecting equipment to sites remote from rail lines. The first big delivery of equipment by air was to the Red Lake development in western Ontario in 1926.

Beginning in 1928, air freight played a big part in equipping gold mines at Pickle Crow and Central Patricia in northwestern Ontario, both very productive. In 1931 planes flew equipment to radium-ore and silver-mining sites in the far northern region of Great Bear Lake. Canadian air freight and express jumped from about 2,400 tons in 1933 to more than 13,000 tons in 1935, mainly because of mining volume.

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Martinique, it holds 310,000 natives. Its shape is that of a half-filled sack of sugar, tied in the center where a narrow waterway divides it into mountainous Basse Terre on the southwest and flat Grande Terre on the northeast.

Pointe à Pitre, leading port and market center, lies on the dividing waterway. The capital town of Basse Terre lies at the double island's southern tip. Marie Galante and La Désirade are the largest of several satellite islands governed as part of Guadeloupe.

All three prospective island-departments threw off Vichy domination in the middle of World War II and rallied to the banner of the Fighting French—Réunion, late in 1942; Martinique and Guadeloupe, in mid-1943.

Note: Martinique and Guadeloupe are shown on the Society's Map of Mexico, Central America, and the West Indies; Réunion appears on the Map of the Indian Ocean.

For additional information, see "Martinique, Caribbean Question Mark," in the *National Geographic Magazine* for January, 1941; and, in the GEOGRAPHIC SCHOOL BULLETINS, January 11, 1943, "Réunion Island, Isolated Bit of France in Indian Ocean;" and "Martinique: A French Storm Center of the Caribbean," January 12, 1942.

Bulletin No. 3, April 15, 1946

Publishers' Photo Service

MARTINIQUE IS PROUD OF JOSEPHINE, THE EMPRESS IT GAVE TO FRANCE

Her statue in Fort de France, the West Indian island's capital, is near scenes of her childhood. At 16 she went to France to marry the Vicomte de Beauharnais. Two years after he was killed in the Terror, the young widow, in 1796, married the rising young military leader Napoleon Bonaparte and rose with him to become first empress of France.

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Geo-Graphic Brevities

SWORDS, SUBURB OF DUBLIN, WAS SCENE OF FAIRS AND FIGHTS

THE QUIET of the ancient village of Swords, near Eire's east coast, is to be broken, under the republic's industrial expansion program, by a new factory to make fine tweed neckwear. Except for a flour mill, the town has had little industrial activity.

Oldest town in County Dublin, Swords is now virtually a residential suburb of the city of Dublin, Eire's capital. It lies eight miles to the north. Before the coming of the automobile, Swords had its quota of inns, including the Harp, Anchor, Black Bull, and Royal Oak. It was an active commercial center. Swords grew up around a monastery established by St. Colum-cille (Columba) in the sixth century. In 1192 a patent was granted to the Archbishop of Dublin for an eight-day fair. This was held on Swords' 100-acre town common. In recent centuries four fairs have been held each year.

Because of its location near the sea, Swords was often attacked by the Danes. Its name, however, has no connection with the clash of swords between invaders and defenders. It is derived from a Celtic word meaning "pure," as applied to St. Colum-cille's Well, long one of the town's chief sources of water.

In the Middle Ages the Danes burned Swords seven times. Each time the town was rebuilt, but few of its ancient buildings remain. The oldest still standing is an ivy-covered round tower, 75 feet high, one of Ireland's 118 round towers. A tower, now part of a modern church, is the only relic of the monastery.

To escape the din of the congested walled city, the archbishops of Dublin built their palace outside at Swords. There they maintained the episcopal residence until the 14th century. A florist's nursery now surrounds the palatial ruins; portions of the walls, warder's walk, and watch towers still stand.

Note: Dublin may be located on the Society's Map of the British Isles.

For further information, see "Old Ireland, Mother of New Eire," in the *National Geographic Magazine* for May, 1940.

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SILK SURVIVES COMPETITION FROM WAR-BORN SYNTHETICS

ARRIVAL at West-coast ports of the first postwar shipments of silk from the Orient raises the question, will silk recapture its prewar position at the top of the fabric list? The answer is anybody's guess.

During the 1930's, while Japan's silk (at peak production) averaged 21 per cent of the total value of the country's exports, Western nations were developing such synthetic materials as aralac, nylon, and rayon. By the end of 1939 the use of silk had dropped from 40 per cent of the world's silk and rayon consumption to 10 per cent. Japan had begun to turn its silk mills into munitions plants. Industrious Nipponese silkworms lost their jobs—not to mention their lives—when 800,000 of the island nation's million and a quarter acres of mulberry orchards were given up to grain and potatoes.

The Allies have recently ordered Japan to preserve enough mulberry trees to revive its silk industry so that silk exports may help pay for imports of food and clothing which the country so direly needs.

Silk is produced in Brazil, France, China, and Italy. Texas sericulturists report progress in that state, and some cloth has been woven from Texas-grown worms. Silk is being grown successfully in parts of the Belgian Congo.

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Canada's progress in mineral discovery with the aid of the airplane is stated to be five to ten times as great as before. Air prospecting for evidences of uranium has recently been carried on over vast regions where ground travel is at snail's pace. Planes bring fish from Canada's northern lakes to city markets.

Most of the world's chicle, chewing-gum base, comes from the wild forests of El Petén in northern Guatemala. Chicleros collect it and deliver it by muleback to one of the many tiny airports that have been carved in the jungle. Small planes pick it up and fly it out to Flores, then to Puerto Barrios on the Caribbean coast in one-tenth of the time and at one-third of the cost of ground transport.

There are enough rubber trees in the Amazon basin of South America to supply half a million tons of rubber a year. Virtually all of it is hard to reach. United States Government cargo planes served in the wartime project to make this source count by carrying supplies and equipment far inland to treacherous landings so that the latex gatherers could keep on the job. The effort produced 23,000 important tons in 1943—and the airplane proved its place in any future program to open up the natural wealth of the Amazon basin.

In the high Peruvian and Bolivian Andes to the west of the Amazon basin, planes from near-by west-coast ports have deposited machinery and equipment for gold mines that could not otherwise have been opened. Air transport carried gold and diamonds from wilderness mines to South African coast ports. The Russians, perhaps the biggest prewar freight flyers of all, kept in contact with the vast area north of the Trans-Siberian Railroad by plane.

Bulletin No. 4, April 15, 1946

Bradford Washburn

NATIONAL GEOGRAPHIC SOCIETY EXPLORERS MAKE CAMP ON LOWELL GLACIER

In 1935, this expedition led by Bradford Washburn surveyed and mapped 5,000 square miles of unknown territory along the Canada-Alaska panhandle border. Camps such as this one in the ice-ridden Saint Elias Range were supplied by plane with dogs, sleds, tents, equipment, and men. In this area, peaks up to 19,850 feet are interspersed with some of the world's largest glaciers —the last stronghold of the great Ice Age on the North American continent.

In an attempt to start the industry in America, Virginia colonists in 1656 were penalized if they did not plant at least ten mulberry trees to every hundred acres of land they owned. The first silk mill in North America was built at Mansfield, Connecticut, in 1810. Silk production, which never got a real start in the United States, declined after a blight destroyed nearly all the mulberry trees in 1844.

Sericulturists believe that the demand for silk in America—which used more silk products than all the rest of the world combined—will be greater than the supply for years to come, in spite of the development of synthetic fabrics. Bureau of Standards tests show that every desirable quality of silk has been reproduced in some synthetic material. Not all have been combined in one. Silk may remain popular because of its beauty and adaptability. In elasticity and tensile strength it exceeds cotton, linen, rayon, and wool. Cold does not affect it. Silk retrieved from a wrecked ship (under water for ten years) was found to have lost none of its strength or sheen. It is light in weight, warmer than any fabric except wool, and because of its elasticity does not wrinkle easily.

Alfred T. Palmer

BOMBYX MORI MAKES BOOKS—BUT NOT FOR READING

From Bombyx mori to "book"—silkworm to shining skein—involves soaking the cocoon in hot water, drawing out the filament and twisting it with that from several cocoons to make thread coarse enough to handle, and binding the skeins into a bundle called a book. Thirty skeins make a book, 30 books—a small library—make a bale.

Legend credits the Chinese Empress Si-ling-Chi with the discovery of the silkworm, about 2700 B.C. The worm was not cultivated in Europe until the sixth century.

From two glands in the sides of its head, the silkworm (Bombyx mori) discharges a sticky substance that, when detached and reeled, becomes silk thread. It takes the worm three or four days to spin around itself a cocoon the size of a pigeon's egg. In the cocoon are from 500 to 1,200 yards of continuous filament, so fine that 12 miles weigh less than an ounce.

Low heat kills the worm without harming the filaments. The worm, if allowed to remain in its house, would eat through when ready to emerge as a moth, and ruin the cocoon.

Bulletin No. 5, April 15, 1946